REMARKS/ARGUMENTS

In response to the Office Action mailed August 24, 2007, Applicants request reconsideration. No claims are added, cancelled, or amended so that claims 1-20 remain pending.

Applicants understand and thank the Examiner for the careful reconsideration given in response to the Reply filed June 5, 2007. However, there are a number of factual errors and a legal error in the Office Action that require further consideration.

As an initial matter, all arguments made and all points raised in the Reply filed June 5, 2007 are maintained without again being repeated. The Remarks of that Reply are incorporated by reference. No previous argument is withdrawn except with respect to the term "embedded mobile station", an issue that is now moot.

All pending claims stand rejected as obvious over Hubschneider et al. (Published U.S. Patent Application 2002/0091486, hereinafter Hubschneider) in view of Patel et al. (U.S. Patent 7,043,227, hereinafter Patel). This rejection is still respectfully traversed.

As previously stated, there are two requirements for establishing obviousness of any claim. The first requirement is a demonstration that all of the elements of the rejected claims are present in the prior art. The second requirement is that there be some basis for assembling those elements in the way assembled in the claimed invention. The Examiner properly cited *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (2007). *KSR*, in its discussion and holding, was devoted exclusively to the second part of the two-part obviousness test because all of the elements of the invention claimed in the claims at issue in *KSR* were acknowledged to be present in the prior art. The Supreme Court made clear, at least by implication, that its reasoning applied where all of the elements of the invention were shown to be present in the prior art. Citing two precedents, the Court instructed other courts to "ask whether the improvement is more than the predictable use of prior art elements according to their established functions." 82 USPQ2d at 1296. This instruction shows that the *KSR*

ruling applies when all of the claim elements have been shown to be present in the prior art.

In the Amendment filed June 5, 2007, Applicants pointed out at page 16 that Hubschneider included essentially no information regarding selling and no information whatsoever concerning bidding for traffic information that is collected by a probe detector of a vehicle. Further, Applicants pointed out at pages 16 and 17 of the Amendment that Patel includes no information concerning any buying, selling, or bidding for such traffic information. Rather, as discussed further below, Patel concerns the buying and selling of bandwidth. Accordingly, unlike the situation in *KSR*, as pointed out in the paragraph beginning on page 19 and continuing onto page 20 of the Amendment, all of the elements of the invention as defined by the pending independent claims, claims 1, 11, and 17, cannot be found in the Hubschneider and Patel considered together. Therefore, the *KSR* test and the teaching-suggestion-motivation (TSM) test are not even reached in determining whether the claimed invention is obvious over the prior art. On that basis, i.e., the failure here to demonstrate that all of the claim elements are present in the prior art, Applicants again respectfully request reconsideration and withdrawal of the rejection.

As noted, the Examiner again confused the term "bandwidth" with the term "data". These two terms are not identical in meaning and they are not interchangeable. Further, Applicants object to the reliance upon a computer dictionary having definitions subject to continual change. This reliance seems to be contrary to the instructions to examiners no longer to rely upon the Wikipedia to support rejections. Nevertheless, the computer dictionary definition of "bandwidth" that appears on page 16 of the Office Action is not inconsistent with the accepted definition.

For the assistance of the Examiner, attached are copies of the definitions of the terms "bandwidth" and "data" as taken from the IEEE Standard Dictionary of Electrical and Electronics Terms (1984). Just as previously stated, bandwidth refers to a range of frequencies within the electromagnetic spectrum, here the radio frequency

spectrum. A bandwidth "slice" of the radio frequency spectrum may be used for various purposes, including the transmission of information by modulating electrical signals having frequencies within a particular bandwidth. However, "bandwidth" is not information; bandwidth is simply the designation of frequencies between upper and lower limits. "Bandwidth" does not mean or imply that any particular use is made of the frequencies within the bandwidth, for example in the transmission of data.

By contrast with bandwidth, "data" is information. Data, according to the attached definition, is any representation of characters or analog quantities to which *meanings* may be assigned. Thus, data can be characters written on a page or stored in a memory. Data can represent information. Data can be transmitted by numerous means, including modulation of radio frequency signals. That transmission might occur within some range of the electromagnetic spectrum, but that transmission of information does not convert the information into bandwidth or vice versa.

The purpose of the foregoing discussion is to demonstrate that a simple factual error has been made. That error is the linchpin of the rejection, namely that data and bandwidth are synonymous. This error is reiterated in paragraph 32 at page 15 of the Office Action.

> "With regard to applicant's argument that Patel bears no relationship to the buying and selling of information, Examiner respectfully disagrees. Referring to Dictionary.com, bandwidth merely represents the amount of data that can be send [sic] over a prior of time. Therefore, it is irrelevant what type of data is being sent."

Applicants certainly agree that the amount of data that can be transmitted per unit time using radio frequencies is directly related to the bandwidth available. The larger the available bandwidth, the more information per unit time that can be transmitted. However, that fact does not make bandwidth equal to data because data is information and bandwidth is not information. Bandwidth is, in fact, irrelevant to whether data is being sent or what type of data is being sent.

The criticality of this error to the rejection is further apparent in the final lines of page 14 of the Office Action and the beginning lines of page 15. According to this passage, "both Hubschneider and Patel deal with the transfer of data using a wireless network, the former a route navigation system and the latter a system for brokering this data." This statement is factually incorrect because data is never brokered by Patel. As pointed out above and in the previous response, what Patel brokers is *bandwidth*, not data. This fact is readily apparent even by considering only the abstract of Patel which expressly describes brokering bandwidth. The word "data" in Patel is never used interchangeably with bandwidth. Instead, it is used in a way consistent with the definitions provided here. See, for example, column 4, lines 45-47 of Patel. "The bandwidth is used by the server 16 and the mobile devices 20 to communicate voice and data information." Patel does not support the rejection.

There is no basis for nor any logic in the way the Examiner has made equivalent two very different concepts. On this additional basis, upon reconsideration, the rejections should be withdrawn.

Finally, as pointed out in the previous response, Hubschneider does not describe a "probe detector" as that term is defined in both the specification and the claims. That probe detector responds to one or more polling signals that are sent to and received by the probe detector. Thus, the probe detector is a transponder, receiving and replying to polling signals, i.e., includes a transmitter and a receiver.

In this regard, if the Examiner considers paragraph 30 at page 15 of the Office Action of any relevance to the rejection, further clarification is respectfully requested. In the prior response, Applicants stated that Hubschneider makes a single reference to a GPS. Hubschneider is, as previously explained, referring in that single citation in paragraph [0034] to a receiver that receives signals from multiple geostationary satellites. The receiver uses signal processing techniques to determine the terrestrial location of the receiver based upon the signals received from the multiple satellites. The whole system is well known and referred to as the Global Positioning System (GPS). Applicants agree that a probe detector according to the invention may

incorporate such a GPS receiver so that the location of the probe detector can be readily determined. However, the probe detector, unlike a GPS receiver, also transmits radio frequency signals.

In view of this repeated explanation, Applicants are perplexed by the Examiner's reference to the data transmission protocols referred to in paragraph [0033] of Hubschneider, such as WAT, HTTP, TCT/IP, etc., as somehow encompassing a GPS receiver. Perhaps there are too many acronyms. There is no relationship between these protocols, i.e., data formats, and a GPS receiver. Such a non-existent linkage seemed to be essential to the Examiner's assertion that a probe detector is present in the Hubschneider system. There is no probe detector in Hubschneider and a GPS receiver is cannot meet the definition of a probe detector as described and claimed. Data protocols are not transmitters or receivers and cannot be probe detectors. Because of the failure of Hubschneider to describe a probe detector, an essential point in the rejection, in addition to the other reasons presented, the rejection should be withdrawn.

For all of the reasons presented in the Amendment filed June 5, 2007, the invention as defined by the pending claims is patentable over the prior art applied. Those arguments previously presented are maintained. In addition, because of the factual errors discussed here, the rejection should be withdrawn upon reconsideration. All of the elements of the claims have not been shown to be present in the prior art. The terms "data" and "bandwidth" have been improperly interpreted as synonymous. The passive receiver in the Hubschneider apparatus has been confused with data transmission protocols and the transceiver or transponder of the probe detectors of the invention. Each of the errors is sufficient, by itself, to require withdrawal of the rejection.

Reconsideration and allowance of claims 1-20 are earnestly solicited.

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IEEE Standard Dictionary of Electrical and Electronics Terms

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bandwidth. *See:* **fiber bandwidth.** 433

bandwidth (1) (continuous frequency band). The difference between the limiting frequencies. 210

(2) (device). The range of frequencies within which performance, with respect to some characteristic, falls within specific limits. *See:* **radio receiver.**

(3) (wave). The least frequency interval outside of which the power spectrum of a time-varying quantity is everywhere less than some specified fraction of its value at a reference frequency. *Warning:* This definition permits the spectrum to be less than the specified fraction within the interval. *Note:* Unless otherwise stated, the reference frequency is that at which the spectrum has its maximum value. 339

(4) (burst) (burst measurements). The smallest frequency interval outside of which the integral of the energy spectrum is less than some designated fraction of the total energy of the burst. *See:* **burst.** 272

(5) (antenna). The range of frequencies within which its performance, in respect to some characteristics, conforms to a specified standard. *See:* **antenna.** 111, 179

(6) (facsimile). The difference in hertz between the highest and the lowest frequency components required for adequate transmission of the facsimile signals. *See:* **facsimile (electrical communication).** 12

(7) (industrial control) (excitation control systems). The interval separating two frequencies between which both the gain and the phase difference (of sinusoidal output referred to sinusoidal input) remain within specified limits. *Note:* For control systems and many of their components, the lower frequency often approaches zero. *See:* **control system, feedback.** 266, 219, 206, 329, 353

(8) (pulse terms). The two portions of a pulse waveform which represents the first nominal state from which a pulse departs and to which it ultimately returns. Typical closed-loop frequency response of an excitation control system with the synchronous machine open circuited.

(9) (signal-transmission system). The range of frequencies within which performance, with respect to some characteristic, falls within specific limits. *Note:* For systems capable of transmitting at zero frequency the frequency at which the system response is less than that at zero frequency by a specified ratio. For carrier-frequency systems: the difference in the frequencies at which the system response is less than that at the frequency of reference response by a specified ratio. For both types of systems, bandwidth is commonly defined at the points where the response is 3 decibels less than the reference value (0.707 root-mean-square voltage ratio). *See:* **equivalent noise bandwidth.** 188

(10) (oscilloscope). The difference between the upper and lower frequency at which the response is 0.707 (−3 decibels) of the response at the reference frequency. Usually both upper and lower limit frequencies are specified rather than the difference between them. When only one number appears, it is taken as the upper limit. *Notes:* (A) The reference frequency shall be at least 20 times greater for the lower bandwidth limit and at least 20 times less for the upper bandwidth limit than the limit frequency. The upper and lower reference frequencies are not required to be the same. In cases where exceptions must be made, they shall be noted. (B) This definition assumes the amplitude response to be essentially free of departures from a smooth roll-off characteristic. (C) If the lower bandwidth limit extends to zero frequency, the response at zero frequency shall be equal to the response at the reference frequency, not mins3 decibels from it. 185

(11) (dispersive and nondispersive delay lines). A specified frequency range over which the amplitude response does not vary more than a defined amount. *Note:* Typically amplitude range is 1 dB bandwidth, 3 dB bandwidth. 81

(12) (analog computer). (A) Of a signal, the difference between the limiting frequencies encountered in the signal. (B) Of a device, the range of frequencies within which performance in respect to some characteristic falls within specific limits. 9

(13) (data transmission). The range of frequencies within which performance, with respect to some characteristic falls within specific limits. Bandwidth is commonly defined at the points where the response is three decibels less than the reference value. 59

(14) (overhead-power-line corona and radio noise). The range of frequencies within which performance, with respect to some characteristic, falls within specific limits. 411

bandwidth, effective (bandpass filter in a signal transmission system). The width of an assumed rectangular bandpass filter having the same transfer ratio at a reference frequency and passing the same mean square of a hypothetical current and voltage having even distribution of energy over all frequencies. *Note:* For a nonlinear system, the bandwidth at a specified input level. *See:* **network analysis; signal.** 111, 188

bandwidth-limited operation (fiber optics). The condition prevailing when the system bandwidth, rather than the amplitude (or power) of the signal, limits performance. The condition is reached when the system distorts the shape of the waveform beyond specified limits. For linear systems, bandwidth-limited operation is equivalent to distortion-limited operation. *See:* **attenuation-limited operation; distortion-limited operation; linear optical element.** 433

bandwidth, root-mean-square. The root mean squared (rms) deviation of the power spectrum of the received signal relative to zero frequency or the spectral center, in units of radians per second. This bandwidth, β, may be defined as

$$\beta^2 = \frac{\int_{-\infty}^{\infty} [2\pi(f - f_0)]^2 \, |S(f)|^2 \, df}{\int_{-\infty}^{\infty} |S(f)|^2 \, df}$$

ment (instrument).

(2) **(electric instruments).** (A) Since, in some instruments, the damping factor depends upon the magnitude of the deflection, it is measured as the ratio in angular degrees of the steady deflection to the difference between angular maximum momentary deflection and the angular steady deflection produced by a sudden application of a constant electric power. The damping factor shall be determined with sufficient constant electric power applied to carry the pointer to end-scale deflection on the first swing. The damping shall be due to the instrument and its normal accessories only. For purposes of testing damping, in instances where the damping is influenced by the circuit impedance, the impedance of the driving source shall be at least 100 times the impedance of the instrument and its normal accessories. (B) In the determination of the damping factor of instruments not having torque-spring control, such as a power-factor meter or a frequency meter, the instrument shall be energized to give center-scale deflection. The pointer shall then be moved mechanically to end scale and suddenly released. *See:* **moving element (instrument).**

(3) **(underdamped harmonic system).** The quotient of the logarithmic decrement by the natural period. *Note:* The damping factor of an underdamped harmonic system if F/2M. *See:* **damped harmonic system.** 280, 56, 210

damping fluid (gyro, accelerometer) (inertial sensor). A fluid which provides vsicous damping forces or torques to the inertial sensing element. 46

damping magnet. A permanent magnet so arranged in conjunction with a movable conductor such as a sector or disk as to produce a torque (or force) tending to oppose any relative motion between them. *See:* **moving element (instrument).** 328

damping torque (synchronous machine). The torque produced, such as by action of the amortisseur winding, that opposes the relative rotation, or changes in magnitude, of the magnetic field with respect to the rotor poles. 63

damping torque coefficient (synchronous machine). A proportionality constant that, when multiplied by the angular velocity of the rotor poles with respect to the magnetic field, for specified operating conditions, results in the damping torque. 63

damp location (National Electrical Code). Partially protected locations under canopies, marquees, roofed open porches, and like locations, and interior locations subject to moderate degrees of moisture, such as some basements, some barns, and some cold-storage warehouses. 256

dark adaptation (illuminating engineering). The process by which the retina becomes adapted to a luminance less than about 0.034 cd/m^2 , (2.2 X10^{-5}cd/in^2), (0.01 fL). 167

dark current (1) (diode-type camera tube). The current that flows in the output lead of the target in the absence of any external irradiation. Units: amperes (A). 380

(2) **(fiber optics).** The external current that, under specified biasing conditions, flows in a photosensitive detector when there is no incident radiation. 433

(3) **(photoelectric device) (electron device).** The current flowing in the absence of irradiation. *See:* **photoelectric effect; dark current; electrode; dark-current pulses (phototubes).** 244, 190, 117, 125

dark-current pulses (phototubes). Dark-current excursions that can be resolved by the system employing the phototube. *See:* **phototube.** 335

darkening (electroplating). The production by chemical action, usually oxidation, of a dark colored film (usually a sulfide) on a metal surface. *See:* **electroplating.** 328

dark pulses. Pulses observed at the output electrode when the photomultiplier is operated in total darkness. These pulses are due primarily to electrons originating at the photocathode. 117

dark space, cathode. *See:* **cathode dark space.**

dark space, Crookes. *See:* **cathode dark space.**

dark-trace screen (cathode-ray tube). A screen giving a spot darker than the remainder of the surface. *See:* **cathode-ray tubes.** 244, 190

dark-trace tube (skiatron) (1) (electronic navigation). A cathode-ray tube having a special screen that changes color but does not necessarily luminesce under electron impact, showing, for example, a dark trace on a bright background. *See:* **cathode-ray tubes; navigation.** 244, 190

(2) **(radar).** A type of cathode-ray tube having a bright face, on which signals are displayed as dark traces or dark blips; sometimes used as a storage tube or long-persistence display because the dark traces remain on the screen until erased by heat or electron bombardment. This device is now obsolete. *Syn:* **skiatron.** 13

D'Arsonvalization (medical electronics). The therapeutic use of intermittent and isolated trains of heavily damped oscillations of high frequency, high voltage, and relatively low amperage. *Note:* This term is deprecated because it was initially ill-defined and because the technique is not of contemporary interest. 192

data. Any representations such as characters or analog quantities to which meaning might be assigned. 255, 77, 194

(2) **(software).** A representation of facts, concepts, or instructions in a formalized manner suitable for communication, interpretation, or processing by human or automatic means. *See:* **computer data; control data; error data; instructions; reliability data; software experience data.** 434

(3) **(station control and data acquisition).** Any representation of a digital or analog quantity to which meaning has been assigned. 403

data abstraction (software). The result of extracting and retaining only the essential characteristic properties of data by defining specific data types and their associated functional characteristics, thus separating and hiding the representation details. *See:* **data; data types; information hiding.** 434